

REMARKS

Accompanying this response is an Information Disclosure Statement which makes additional known art of record in this application

The objection raised with respect to the Abstract of the Disclosure is overcome by the above newly entered Abstract. If the any further amendment to the Abstract is believed necessary, the Examiner is invited to contact the undersigned to discuss the proposed change(s) to the same.

Claim 26 is objected to for including the phrase "one of". Claim 26 is suitably amended to correct the noted informality and it is respectfully requested that the objection to the claims be withdrawn at this time.

Next, this application is rejected under 35 U.S.C. § 112, first paragraph, for the reasons noted in the official action. The enablement rejection is acknowledged and respectfully traversed in view of the following remarks.

The Examiner specifically takes issue with the phrase "... the drive input shaft (1) is connected directly to one of a solar gear wheel or to a web of a first planetary gearset assembly (P1), the one of the web or solar gear wheel of the first planetary gear set (P1) can be put into rotationally fixed connection with or released from the housing by a second brake (05)" The Examiner asserts that the above recitation includes the possibility of a transmission having a drive input shaft being connected directly to a solar (sun) gear wheel of the first planetary gearset (P1) which can be rotationally fixed to or released from the housing by means of a brake 05.

Upon reviewing the claimed subject matter of claim 26, the Applicant believes that the bases for rejection of this claim, under 35 U.S.C. 112, concerns a perceived indefiniteness regarding the meaning of the term "rotationally fixed", or an uncertainty regarding the possible connections of the input shaft and the second brake with the sun gear and the web of first

planetary gearset. In response, therefore, claim 26 is accordingly amended to address the possible question with regard to the meaning of the term "rotationally fixed" with the recitation that "... a second brake (05) facilitates connecting the one of the web and the sun gear wheel of the first planetary gear set (P1) with the housing" to more accurately convey the function of the second brake (05). The potential uncertainty with regard to the connections between the input shaft, the second brake, the sun gear and the web of the planetary gearset is also traversed by rephrasing this limitation in the form "a first one of A and B and a second one of A and B" to clarify the claimed connections between the input shaft, the second brake, the sun gear and web of the planetary gearset. The Applicant therefore respectfully submits that presently amended claim 26 is now enabled and the raised 35 U.S.C. § 112, first paragraph, rejection should be withdrawn.

Claims 26, 27, 29, 33, 41 and 45-47 are then rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. The rejected claims are accordingly amended, by the above claim amendments, and all of the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case.

Lastly, claims 26, 27, 29, 33, 41 and 45-47 are rejected, under 35 U.S.C. § 102(b), as being anticipated by Ziemer '983. The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

As the Examiner is aware, in order to fully support an anticipation rejection under 35 U.S.C. § 102(b), the cited reference must disclose each and every limitation of the presently claimed invention. Therefore first considering the present invention as recited in the claims,

it is noted that claim 26 is amended to more explicitly recite the fundamental distinctions between the present invention and Ziemer '983. It will also be noted that new independent claims 49 and 51 and new dependent claims 50 and 52 each recite additional limitations which further distinguish the present invention from Ziemer '983.

First considering claim 26 as amended herein above, as recited in this claim the present invention is directed to a multi-stage transmission having a drive input shaft (1) and a drive output shaft (2), three single-web planetary gearset assemblies (P1, P2, P3), third, fourth, fifth and sixth rotatable shafts (3, 4, 5, 6) and five shift elements comprising first, second and third brakes (03, 04, 05) supported by the transmission housing and first and second clutches (13, 16).

As recited in claim 26, the shafts and the shift elements are arranged so that the drive input shaft (1) is connected directly to a first one of a sun gear wheel and a web of a first planetary gearset assembly (P1) and the second brake (05) facilitates connection of a second one of the web and the sun gear wheel of the first planetary gear set (P1) with the housing. The second shaft (2) is connected to an annular gear wheel of the second planetary gearset assembly (P2) and to a web of the third planetary gearset assembly (P3) and forms the output drive for the multi-stage transmission. The third shaft (3) is connected to a web of the second planetary gearset assembly (P2) and to an annular gear wheel of the third planetary gearset assembly (P3) while the fourth shaft (4) is connected to the sun gear wheel of the second planetary gear set (P2) and to the annular gear wheel of the first planetary gearset assembly (P1). The fifth shaft (5) is, in turn, connected to one of the web and the sun gear wheel of the first planetary gearset assembly (P1) while the sixth shaft (6) is connected to the sun gear wheel of the third planetary gearset assembly (P3).

The third shaft (3) can thereby be coupled to the housing by the third brake (03), while the fourth shaft (4) can be coupled to the housing by the first brake (04) and the first

clutch (13) couples the input drive shaft (1) to the third shaft (3), the second clutch (16) couples the input drive shaft (1) to the sixth shaft (6) and the second brake (05) couples the fifth shaft (5) to the housing.

The shafts, the associated shifting elements as well as their claimed arrangements with respect to one another, as recited in claim 26, thereby allows the selective engagement of pairs of shift elements so as to result in seven transmission ratios between the drive input shaft and the drive output shaft wherein the seven transmission ratios comprise six forward gears and one reverse gear.

Comparing the presently claimed invention with the teaching of Ziemer '319 as exemplified in FIG. 6A and the associated text thereof, the presently claimed transmission employs five shifting elements including first, second and third brakes and first and second clutches, to provide six forward transmission ratios and one reverse ratio. In fundamental contrast from the presently claimed transmission of claims 26, the Ziemer '319 transmission necessarily employs six (6)—not five (5)—shifting elements including four brakes and two clutches which provides seven forward transmission ratios and one reference ratio.

Considering Ziemer '319 in further detail, it will be noted that the sixth additional shifting element according to Ziemer '319 is a brake A' which is neither included nor required by the presently claimed transmission of claim 26. It should also be noted that this distinction between the transmission of claim 26 and the specific teachings of Ziemer '319 are clearly recited in claim 26 by the statement that the transmission of the present invention includes only three brakes, which is in distinct contrast to the four brakes required by Ziemer '319.

It is, therefore, apparent that the transmission of the present invention, as recited in claim 26, is of a completely structure and operation than that Ziemer '319 with regard to the number and type of shifting elements employed by the transmission of the present invention, as well as the resulting number of transmission ratios provided by the present transmission as

compared to the number of transmission ratios of the Ziemer '319 transmission. It is, therefore, the Applicant's position that claim 26, as amended herein above, is fully and patentably distinguished over and from the teachings of Ziemer '319 under the requirements and provisions of 35 U.S.C. § 102. The Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw the raised rejection of claim 26, as amended herein above, in view of Ziemer '319, under 35 U.S.C. § 102, and allow claim 26.

It is also noted that the remaining claims 27-47 all dependent, either directly or indirectly, from claim 26 and thereby incorporate all recitations and limitations of claim 26, so that those of claims 27-47 are thereby fully and patentably distinguished over and from Ziemer '319 from at least the same reasons that claim 26 is patentably distinguished over Ziemer '319. The Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw all rejections of those of claims 27-47 and allow claims 27-47 as well.

Next considering the present invention as recited in new independent claim 49, it will first be noted that claim 49 is based upon claim 26 and thus includes the above discussed essential distinctions between the presently claimed invention and Ziemer '319. Claim 49, however, further includes recitations pertaining to the arrangement of the planetary gearsets, the brakes and the clutches in the transmission of claim 26. More specifically, claim 49 recites that the shift elements and planetary gearsets are arranged so that the second and third planetary gearset assemblies (P2, P3) are located adjacent one another at the output shaft end of the transmission while the first planetary gearset assembly is located adjacent the input shaft end of the transmission, and that the first and second clutches (13, 16) and the first and third brakes (04, 03) are located the first and second planetary gearsets (P1, P3) while the second brake (05) is located adjacent an input shaft end of the transmission.

Claim 50, in turn, is dependent from claim 49 and further includes recitations concerning the detailed interconnections of the shafts, the gearsets and the shift elements as recited in claim 26.

The Ziemer `319 transmission arranges two planetary gearsets adjacent the output end of the transmission and a single planetary gearset adjacent the input end of the transmission but, in fundamental contrast from the present invention, the arrangement of the clutches and the brakes according to the Ziemer `319 transmission is significantly different from that of the presently claimed invention.

More specifically, the Ziemer `319 transmission is significantly different from the transmission of the present invention in that the Ziemer `319 transmission locates only one clutch between the first and second gearsets--instead of first and second clutches--and locates one brake and one clutch between the third planetary gearset and the output end of the transmission, which is completely different from the clutch and brake arrangement of the presently claimed invention. As discussed above, this significantly different arrangement of the brakes and the clutches in the Ziemer `319 transmission is most probably due to the requirement in Ziemer `319 to have seven forward ratios and one reverse ratio which, in turn, requires the use of a fourth brake which is not required or present in the transmission according to the presently claimed invention.

It is, therefore, apparent that the transmission of the present invention, as recited in claim 49 is of a completely structure and operation than that of Ziemer `319 with regard to the number, the type and the arrangement of planetary gearsets and the shifting elements employed by the transmission, as well as the resulting number of transmission ratios provided by the presently claimed transmission as compared to the number of transmission ratios of the Ziemer `319 transmission. It is, therefore, the Applicant's position that claim 49 is fully and patentably distinguished over and from the teachings of Ziemer `319 under the requirements

and provisions of 35 U.S.C. § 102. In view of the above, the Applicant, therefore, respectfully requests that the Examiner consider and allow claim 49 over Ziemer `319.

Claim 50, in turn, depends from claim 49 and thereby incorporates all recitations and limitations of claim 49, so that claim 50 is thereby fully and patentably distinguished over and from Ziemer `319 for the same reasons that claim 49 is patentably distinguished over Ziemer `319. The Applicant therefore respectfully requests that the Examiner consider and allow claim 50.

Claim 51, in turn, also depends from claim 49 and thereby incorporates all recitations and limitations of claim 49, so that claim 51 is thereby fully and patentably distinguished over and from Ziemer `319 for the same reasons that claim 49 is patentably distinguished over Ziemer `319. The Applicant therefore respectfully requests that the Examiner consider and allow claim 51.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Ziemer `983 reference, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

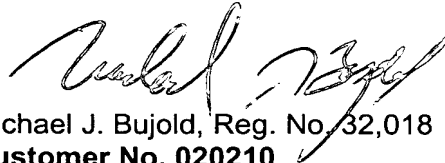
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In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Michael J. Bujold, Reg. No. 32,018

Customer No. 020210

Davis & Bujold, P.L.L.C.

112 Pleasant Street

Concord, NH 03301-2931

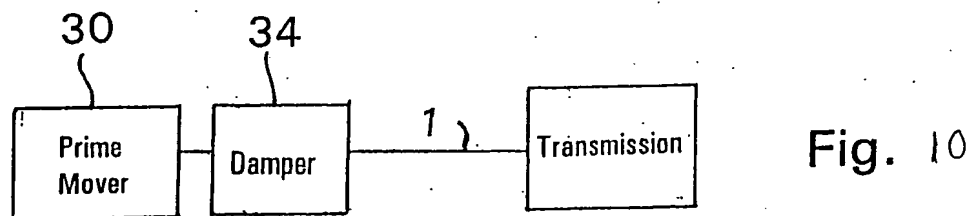
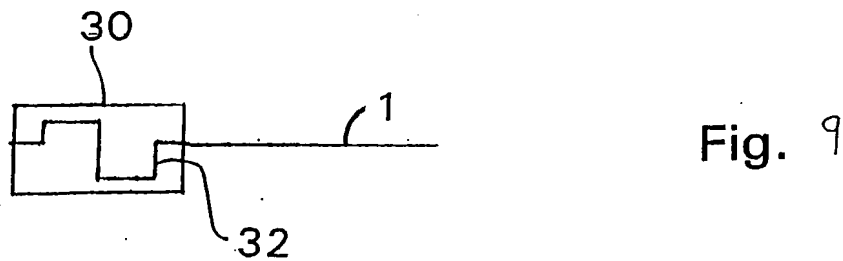
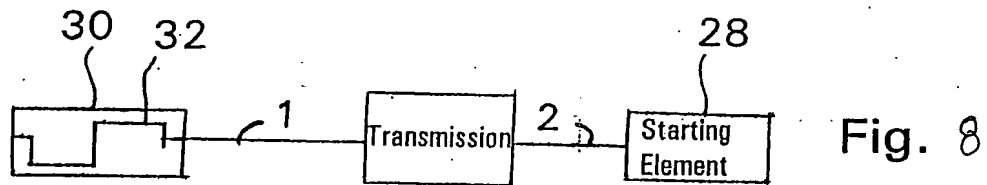
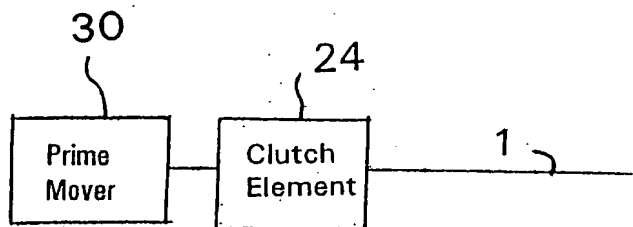
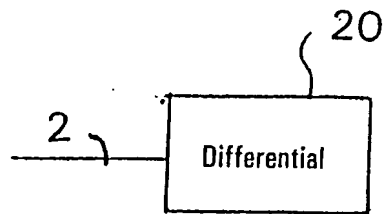
Telephone 603-226-7490

Facsimile 603-226-7499

E-mail: patent@davisandbujold.com



Annotated Marked-Up Drawing



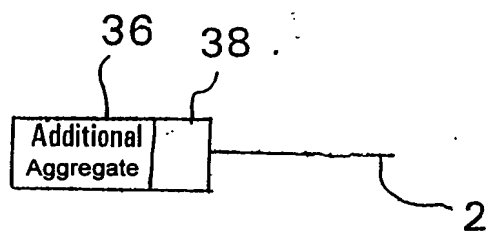


Fig. 11

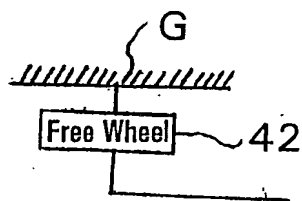


Fig. 12

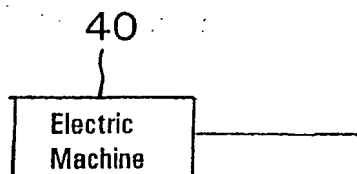


Fig. 13

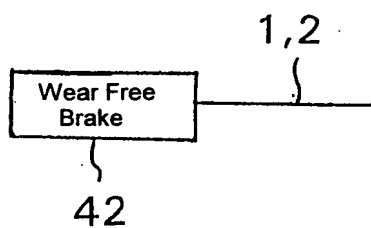


Fig. 14

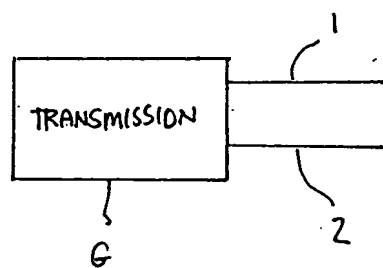


FIG. 15